

# CWSF 2011 - Toronto, Ontario



## Yichen Zhang

### Supergrass II: Lemongrass Essential Oils' Cytotoxicity on Colorectal Cancer Cells

**Challenge:** Health

**Category:** Intermediate

**Region:** Greater Vancouver

**City:** Richmond, BC

**School:** A.R. MacNeill Secondary

**Abstract:** Lemongrass has been used extensively in traditional medicine and this experiment sought to determine if essential oils extracted from lemongrass could induce apoptosis in colorectal cancer cells and inhibit the growth of two strains of bacteria correlated to colorectal cancer. Current results suggest that this treatment is antiproliferative and antibacterial, which gives us hope that one day, lemongrass may be the key to overcoming cancer.

#### Biography

I am a grade 10 student currently attending the A.R. MacNeill Incentive Outdoor Academy in Richmond, BC. Having immigrated to Canada at the age of three, my first language is Mandarin, but I am also fluent in English, and I can speak some French. At school, I enjoy every subject but I am especially captivated by Biology, more specifically, studies of disease and the human body. Since grade 8, I have been involved with science fairs at the regional level and this is my first CWSF. I have also competed in several math competitions, including Gauss, Pascal, and Cayley, and I have consistently ranked highest in my school. For my extracurricular activities, I enjoy alpine skiing and playing ultimate Frisbee. As for the arts, I enjoy cooking and experimenting with new flavours, and I am also into drawing, designing, and video editing.

#### Awards

#### Value

Excellence Award - Intermediate - Silver Medal Sponsor: Youth Science Canada	\$700
The University of Western Ontario Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Western Ontario	\$2 000
Total	\$2 700